precautions having been taken than at Corona, Colo., during the eclipse of June 8, 1918, where they were observed.

The eclipse of May 29 as observed at Cape Palmas, was not nearly as dark, in spite of its long duration, as the much shorter one of June 8, 1918, at Corona. There was a marked difference in light, both as seen visually and as shown by the photographs, between the inner corona and the outer extension. The large red prominence was a startling object.

Clear indications were had with regard to a magnetic effect in accordance with the results obtained at previous solar eclipses.

There was a steady slight decrease in temperature from 12^h G.M.T., 0.7 minute after the first contact, to 12.7^h G.M.T., and then a more rapid decrease until 14^h G.M.T., when the minimum temperature of 79.4° F was reached. This time (14^h) was approximately 0.4^h later than the middle time of totality. The increase in temperature after 14^h was rapid, the maximum 82.7° F being reached at 14.9^h G.M.T. The hygrogram for May 29 showed the following effect: The humidity, which was 71 per cent at 12^h G.M.T. steadily increased to 78 per cent at 14^h G.M.T. There was a more rapid decrease from 14^h G.M.T. to 15^h G.M.T., when the humidity was 66 per cent. The maximum humidity, therefore, occurred at 14^h, or approximately 0.4 hour later than the middle time of totality. The barogram showed nothing marked during the time of the eclipse.

VELOCITY OF THE WIND IN HIGH ALTITUDES IN CLEAR WEATHER.

By CH. MAURAIN.

[Abstracted from Comptes Rendus, July 15, 1919, pp. 79-82.]

In order to determine the average speed of the wind in extreme altitudes, as many records of sounding balloons as possible were assembled, and of these all those were taken which attained altitudes greater than 10 kilometers. From 198 such flights it was found that the mean speed of the wind increased in an almost linear manner from 5 meters per second at an altitude of 500 meters, to 15.6 meters per second at 11,000 meters, after which it began to decrease until it reached in the neighborhood of 8 meters per second at 19,000 meters. Of these flights, there were 11 in which a speed greater than 40 meters per second was observed, 2 in which it exceeded 50 meters per second, and one which gave a value of 55 meters per second. The last was observed at Pavie.—*C. L. M.*

THE MONSOONS OF TUNIS.

By J. ROUCH.

[Abstracted from Annales de Geographie, vol. 28, No. 153, pp. 226-229, 1919.]

The monsoon, the most important effect of the unequal heating of the continents and the oceans, is, except in a very few regions of the world, masked by the general circulation. The presence of this effect can, however, be clearly demonstrated by a method due to Allard and Angot:

The mean wind observed in any season is considered as resolvable into two components—the mean annual wind and a seasonal (monsoon) wind. From the triangle of velocities it is evident that the seasonal wind (monsoon component) is given by the diagonal of the parallelogram constructed on the mean annual wind and the mean wind observed in the given season.

Upon constructing the seasonal (monsoon) components by this method, and expressing each in terms of the mean annual wind, for six selected stations in Tunis, it is found that there is a strong winter monsoon component normal to the coast line, and directed toward the sea, for all coast stations, and that there is an equal monsoon component, oppositely directed, in summer.

At the inland stations, however, the effect is scarcely noticeable. At 200 kilometers from the coast the seasonal (monsoon) components are practically nil. Since isobaric charts show that the relative distribution of pressure over the eastern Mediterranean and southern Tunis is reversed between the two seasons, this fact can not be explained if it is assumed that the differences of pressure are alone responsible for the winds. Probably the temperature gradient, which is steep near the coast, must also be considered.

It is known that at some altitude the direction of the monsoon wind should be opposite to that of the surface. The aerological observations at Bizerte and at Sousse, Tunis, are expected to furnish information as to this altitude variation.—*E. W. W.*

ATMOSPHERIC WATER.

By OSCAR E. MEINZER.

[Abstracted from "Outline and Glossary of Ground-water Hydrology," an unpublished U. S. Geol. Surv. manuscript, pp. 1-7.]

The term "water" is used in geophysics to denote hydrogen monoxide, or chemically pure water, together with the solid, liquid, and gaseous materials held by the hydrogen monoxide as it exists in the earth in its natural condition."

The water of the earth may be divided into three parts—(1) Atmospheric water, the solid, liquid, and gaseous water which exists in the atmosphere; (2) surface water, the solid, and liquid water which exists on the upper surface of the lithosphere, i. e., in the hydrosphere; (3) subsurface water, the solid, liquid, and gaseous water which exists below the surface of the lithosphere. Water is often discharged from the atmosphere into the lithosphere, and vice versa, but, the capacities of these being limited, the hydrosphere becomes the receptacle for all water which the other "spheres" do not hold. Furthermore, the water-holding capacity of the atmosphere space alone changes rapidly and greatly, and the different parts of the atmosphere alternately receive water from, and yield water to, the hydrosphere and the lithosphere. The frequent changes in the water capacity of the atmospheric space are the principal cause of the continuous movement of water in the hydrosphere and lithosphere, and the principal agency that prevents the attainment of static equilibrium in the water of the earth.

Atmospheric water in the gaseous state is known as atmospheric water vapor. The solid and liquid water of the hydrosphere and lithosphere, and also any solid and liquid water which may exist in the atmosphere, are the sources of atmospheric water vapor; the process of conversion being known as evaporation, or vaporization. The term "evaporation" is also used to designate the quantity of water that is evaporated. When thus used it is generally expressed as depth of liquid water removed from a specified surface, most commonly in inches or centimeters. The rate of evaporation is expressed in units of depth per unit of time. The evap-